Mercury Exposure Investigation

Grades

8-12

Subject

Health and Science (Chemistry and /or Biology)

Duration

1-2 class periods

Materials

Copies of Mercury Fact Sheet
Copies of Site Map
Copies of Patient Profile
Copies of Investigation Record worksheet / or transparency for the overhead projector

Objectives

TSWBAT identify sources of mercury exposure given a map of the exposure area and various patient profiles.
TSWBAT appreciate the variety of ways humans can come in to contact with mercury.
TSWBAT recognize the symptoms of mercury poisoning.

Set

Hand out the ATSDR Mercury Fact Sheet. Discuss what a fact sheet is and how it is useful. Read the fact sheet with the class. Identify main points and important facts relating to mercury.

Instructional Input

Form teams of "medical investigators." Teams should be made up of three to four students.
Hand out or place the site map on the overhead projector.
Hand out the case history and patient profiles and have the teams read through them.
Instruct students to think about likely cases of mercury poisoning and possible sources of exposure. Encourage them to use the site map, case history information, and the patient profile in their decisions.

Hand out the Investigation Record worksheet and instruct the students to thoughtfully fill it out. Stress the fact that they need to justify their responses based on knowledge gained from the fact sheet and information from the site map, case history, and patient profile.

Closure

Have each group present and defend their results. Come to a class consensus.

Extended Practice

Have the students respond in essay format to the following questions.

- What should be done about the mercury contamination at this site?
- Assuming there is no money available to clean the site up, how could humans be protected from exposure to mercury?
- Attempting to remove the mercury contaminated sediments around the mine, in the river, and in the reservoir can potentially reintroduce mercury, which was previously buried. How would you justify removing, or not removing this sediment?